

What Is Claimed Is:

1. A video-based surgical targeting system comprising:

a patient-specific database comprising a plurality of 2-D images of the anatomical structure of a patient;

a patient-specific 3-D computer model of said anatomical structure of said patient, said patient-specific 3-D computer model being assembled from said plurality of 2-D images contained in said patient-specific database;

graft placement means for (i) inserting virtual grafts into said 2-D images contained in said patient-specific database, and/or (ii) or inserting virtual grafts into said 3-D computer model;

an image generator for generating a virtual image of the anatomical structure modeled by said patient-specific 3-D computer model;

real-time image generating means for generating a real image of the anatomical structure of a patient;

video mixing means for mixing said virtual image and said real image into an output image, whereby said

output image may comprise either one of the two images exclusive of the other, or a composite of both images; and

display means for displaying said output image.

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